

WHAT IS CLAIMED IS:

1. An image display device, comprising:
  - a display unit;
  - a resolution conversion device that makes a plurality of pixels from each pixel of original image data and generates resolution-converted image data including the plurality of made pixels;
  - a viewing angle range adjustment device that sets grayscale values of each pixel of the resolution-converted image data so that the grayscale values of adjacent pixels in a vertical direction of the resolution-converted image data are different from each other; and
  - a display device for displaying the resolution-converted image data on the display unit.
2. The image display device according to Claim 1, the viewing angle range adjustment device setting the difference between grayscale values of the adjacent pixels in the vertical direction to be more than a predetermined grayscale value.
3. The image display device according to Claim 1, the viewing angle range adjustment device setting the grayscale values of each of the pixels based on display characteristics of the display unit.
4. The image display device according to Claim 3, the viewing angle range adjustment device comprising:
  - a lookup table that stores the display characteristics of the display unit; and
  - a device that determines the grayscale value of each pixel with reference to the lookup table.
5. The image display device according to Claim 1, the viewing angle range adjustment device setting the grayscale values of sub pixels constituting each pixel of the resolution-converted image data such that adjacent sub pixels in the vertical direction have different grayscale values.
6. The image display device according to Claim 5, the viewing angle range adjustment device comprising:
  - a lookup table that stores display characteristics of the display unit for each color of R, G, and B; and
  - a device that determines the grayscale values of the sub pixels for each color with reference to the lookup table.

7. The image display device according to Claim 1, further comprising:

an input unit that receives a command to select one of a wide viewing angle range and a narrow viewing angle range, the display device displays the resolution-converted image data adjusted by the viewing angle range adjustment device if the wide viewing angle range mode is selected and displays the resolution-converted image data not adjusted by the viewing angle range adjustment device if the narrow viewing angle range mode is selected.

8. An image display method to be executed in an image display device with a display unit, comprising:

making a plurality of pixels from each pixel of original image data and generating resolution-converted image data including the plurality of made pixels;

setting a grayscale value of each pixel of the resolution-converted image data so that the grayscale values of adjacent pixels in the vertical direction of the resolution-converted image data are different from each other; and

displaying the resolution-converted image on the display unit.

9. An image display program to be executed in the image display device having a display unit and a computer, the image display program making the computer function as:

a resolution conversion device that makes a plurality of pixels from each pixel of original image data and generates resolution-converted image data including the plurality of made pixels;

a viewing angle range adjustment device that sets a grayscale value of each pixel of the resolution-converted image data so that the grayscale values of the adjacent pixels in the vertical direction of the resolution-converted image data are different from each other; and

a display device that displays the resolution-converted image on the display unit.